

In the Claims:

Please amend the claims as follows:

1-24. (Cancelled)

25. (Original) An object inspection system comprising:

a sensor having an eddy current inspection coil connected to a radio frequency generator, and to an eddy current detector, and a first optical fiber connected to a light source to illuminate an object to be inspected, and a second optical fiber connected to a light detector to detect light reflected from the object, and an inspection chamber housing the object.

26. (Original) An inspection system as claimed in claim 25, wherein the object is a wafer having a film deposited thereon.

27. (Original) An inspection system as claimed in claim 26, wherein said sensor measures a thickness of said film.

28. (Original) An inspection system as claimed in claim 27, wherein said film is a conducting film.

29. (Original) An inspection system as claimed in claim 27, wherein said film is a dielectric film.

30. (Original) An inspection system as claimed in claim 27, wherein said film comprises a dielectric film and a conducting film.

31. (Original) An inspection system as claimed in claim 25, wherein the sensor further comprises a modifying member, attached to said first optical fiber, for focusing light from the light source.

32. (Original) An inspection system as claimed in claim 25, wherein the sensor further comprises a modifying member, attached to said second optical fiber, for focusing light to the light detector.

33. (Original) An inspection system as claimed in claim 25, wherein the first and second optical fibers are disposed parallel to the eddy current inspection coil in said sensor.

34. (Original) An inspection system as claimed in claim 25, wherein the first and second optical fibers are disposed co-axially with the eddy current inspection coil.

35. (Original) An inspection system as claimed in claim 25, wherein the light source is a laser.

36. (Original) An inspection system as claimed in claim 35, wherein the light source emits light having wavelengths from 200 to 1100 nanometers.

37. (Original) An inspection system as claimed in claim 25, wherein the light source is a broadband light source.

38. (Original) An inspection system as claimed in claim 25, wherein the light detector is a charge coupled device.

39. (Original) An inspection system as claimed in claim 25, wherein the light detector is a photodiode array.

40. (Original) An inspection system as claimed in claim 25, wherein the said object is a wafer, wherein the inspection chamber further comprises a chamber for a wafer manufacturing process, said system further comprising positioning means for providing relative movement between the sensor and the wafer, and an airlock for inserting said wafer into the inspection chamber.

41. (Original) An inspection system as claimed in claim 40, wherein the positioning means further comprises a positioning arm on which the sensor is disposed.

42. (Original) An inspection system as claimed in claim 41, wherein the positioning means further comprises an apparatus for tilting the sensor at an angle with respect to the wafer.

43. (Original) An inspection system as claimed in claim 41, wherein the positioning means further comprises a positioning turntable on which the wafer is disposed.

44. (Original) An inspection system as claimed in claim 25, wherein said system comprises more than one said sensor.